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CLAIM AMENDMENTS

1. (currently amended) A radio frequency integrated circuit (RFIC) having sectional electrostatic discharge (ESD) protection, the RFIC comprises:

analog receive section operably coupled to convert inbound radio frequency (RF) signals into inbound low intermediate frequency (IF) signals, wherein the analog receive section has an analog receive ground connection, and wherein the analog receive section includes analog receive ESD protection circuitry operably coupled to the analog receive ground connection;

analog transmit section operably coupled to convert outbound low IF signals into outbound RF signals, wherein the analog transmit section has an analog transmit ground connection, wherein the analog transmit section includes analog transmit ESD protection circuitry operably coupled to the analog transmit ground connection;

digital section operably coupled to convert the inbound low IF signals into inbound digital data ~~baseband signals~~ and to convert outbound digital data ~~baseband signals~~ into the outbound low IF signals, wherein the digital section has a digital ground connection;

first inductor assembly operably coupling the analog receive ground connection to the digital ground connection for ESD protection between analog and digital domains across the analog receive ground and digital ground connections; and

second inductor assembly operably coupling the analog transmit ground connection to the digital ground connection for ESD protection between analog and digital domains across the analog transmit ground and digital ground connections.

2. (original) The RFIC of claim 1 further comprises:

the analog receive section, the analog transmit section, and the digital section being fabricated on a single die; and

the first and second inductor assemblies are off-chip with respect to the single die.

3. (original) The RFIC of claim 2 further comprises at least one of:

the first and second inductor assemblies are external to a package housing the single die; and

the first and second inductor assemblies are within the package housing the single die.

4. (previously amended) The RFIC of claim 1 further comprises:

the analog receive section including second analog receive ESD protection circuitry operably coupled to an analog receive power source connection;

the analog transmit section including second analog transmit ESD protection circuitry operably coupled to an analog transmit power source connection;

the digital section including a digital power source connection;

a third inductor assembly operably coupling the analog receive power source connection to the digital power source connection for ESD protection between analog and digital domains across the analog receive power source and digital power source connections; and

a fourth inductor assembly operably coupling the analog transmit power source connection to the digital power source connection for ESD protection between analog and digital domains across the analog transmit power source and digital power source connections.

5. (previously amended) The RFIC of claim 1, wherein the analog receive section further comprises:

low noise amplifier operably coupled to amplify the inbound RF signals to produce amplifier inbound RF signals, wherein the low noise amplifier has a low noise amplifier ground connection;

mixing module operably coupled to mix the amplified inbound RF signals with a receive local oscillation to produce down converted signals, wherein the mixing module has a mixing module ground connection;

receive filtering module operably coupled to filter the down converted signals to produce the inbound low IF signals, wherein the receive filtering module has a receive filtering ground connection; and

analog portion of an analog to digital converter, wherein the analog portion has an analog portion ground connection, wherein the first inductor assembly includes a first inductor operably coupling the low noise amplifier ground connection to the mixing module ground connection, a second inductor operably coupling the mixing module ground connection to the receive filtering ground connection, a third inductor operably coupling the receive filtering ground connection to the analog portion ground connection, and a fourth inductor operably coupling the analog portion ground connection to the digital ground connection.

6. (original) The RFIC of claim 1, wherein the analog transmit section further comprises:

power amplifier operably coupled to amplify up converted signals to produce the outbound RF signals, wherein the power amplifier includes a power amplifier ground connection;

mixing module operably coupled to mix filtered low IF signals with a transmit local oscillation to produce the up converted signals, wherein the mixing module includes a mixing module ground connection;

filtering module operably coupled to filter the outbound low IF signals to produce the filtered low IF signals, wherein the filtering module includes a filtering module ground connection; and

analog portion of a digital to analog converter, wherein the digital to analog converter converts digital outbound low IF signals into the outbound low IF signals, wherein the analog portion of the digital to analog converter includes an analog portion ground connection, wherein the second inductor assembly includes a first inductor operably coupling the power amplifier ground connection to the mixing module ground connection, a second inductor operably coupling the mixing module ground connection to the filtering module ground connection, a third inductor operably coupling the filtering module ground connection to the analog portion ground connection, and a fourth inductor operably coupling the analog portion ground connection to the digital ground connection.

7. (original) The RFIC of claim 1, wherein the analog receive section further comprises:

low noise amplifier operably coupled to amplify the inbound RF signals to produce amplifier inbound RF signals, wherein the low noise amplifier has a low noise amplifier ground connection; and

analog receive radio section operably coupled to convert the amplified inbound RF signals into the inbound low IF signals, wherein the analog receive radio section has an analog portion ground connection, wherein the first inductor assembly includes a first inductor operably coupling the low noise amplifier ground connection to the analog portion ground connection and a second inductor operably coupling the analog portion ground connection to the digital ground connection.

8. (original) The RFIC of claim 1, wherein the analog transmit section further comprises:

power amplifier operably coupled to amplify up converted signals to produce the outbound RF signals, wherein the power amplifier includes a power amplifier ground connection; and

analog transmit radio section operably coupled to produce the up converted signals from the outbound low IF signals, wherein the analog transmit radio section includes a analog portion ground connection, wherein the second inductor assembly includes a first inductor operably coupling the power amplifier ground connection to the analog portion ground connection and a second inductor operably coupling the analog portion ground connection to the digital ground connection.

9. (currently amended) A radio frequency integrated circuit (RFIC) having sectional electrostatic discharge (ESD) protection, the RFIC comprises:

analog receive section operably coupled to convert inbound radio frequency (RF) signals into inbound low intermediate frequency (IF) signals, wherein the analog receive section has an analog receive ground connection, and wherein the analog receive section includes analog receive ESD protection circuitry operably coupled to the analog receive ground connection,

power amplifier operably coupled to amplify up converted signals to produce outbound RF signals, wherein the power amplifier includes a power amplifier ground connection and power amplifier ESD protection circuitry;

analog transmit radio section operably coupled to produce the up converted signals from outbound low IF signals, wherein the analog transmit radio section includes a analog transmit radio ground connection;

digital section operably coupled to convert the inbound low IF signals into inbound digital data ~~baseband signals~~ and to convert outbound digital data ~~baseband signals~~ into the outbound low IF signals, wherein the digital section has a digital ground connection;

inductor operably coupling the power amplifier ground connection to the analog transmit radio ground connection;

first inductor assembly operably coupling the analog receive ground connection to the digital ground connection for ESD protection between analog and digital domains across the analog receive ground and digital ground connections; and

second inductor assembly operably coupling the analog transmit radio ground connection to the digital ground connection for ESD protection between analog and digital domains across the analog transmit ground and digital ground connections.

10. (original) The RFIC of claim 9 further comprises:

the analog receive section, the power amplifier, the analog transmit radio section, and the digital section being fabricated on a single die; and

the inductor and the first and second inductor assemblies are off-chip with respect to the single die.

11. (original) The RFIC of claim 10 further comprises at least one of:

the inductor and the first and second inductor assemblies are external to a package housing the single die; and

the inductor and the first and second inductor assemblies are within the package housing the single die.

12. (previously amended) The RFIC of claim 9 further comprises:

the analog receive section including second analog receive ESD protection circuitry operably coupled to an analog receive power source connection;

the power amplifier including second power amplifier ESD protection circuitry operably coupled to a power amplifier power source connection;

the digital section including a digital power source connection;

a third inductor assembly operably coupling the analog receive power source connection to the digital power source connection for ESD protection between analog and digital domains across the analog receive power source and digital power source connections; and

a fourth inductor assembly operably coupling the power amplifier power source connection to the digital power source connection for ESD protection between analog and digital domains across the power amplifier power source and digital power source connections.

13. (original) The RFIC of claim 9, wherein the analog receive section further comprises:

low noise amplifier operably coupled to amplify the inbound RF signals to produce amplifier inbound RF signals, wherein the low noise amplifier has a low noise amplifier ground connection;

mixing module operably coupled to mix the amplified inbound RF signals with a receive local oscillation to produce down converted signals, wherein the mixing module has a mixing module ground connection;

receive filtering module operably coupled to filter the down converted signals to produce the inbound low IF signals, wherein the receive filtering module has a receive filtering ground connection; and

analog portion of an analog to digital converter, wherein the analog portion has an analog portion ground connection, wherein the first inductor assembly includes a first inductor operably coupling the low noise amplifier ground connection to the mixing module ground connection, a second inductor operably coupling the mixing module ground connection to the receive filtering ground connection, a third inductor operably

coupling the receive ground connection to the analog portion ground connection, and fourth inductor operably coupling the analog portion ground connection to the digital ground connection.

14. (original) The RFIC of claim 9, wherein the analog transmit radio section further comprises:

mixing module operably coupled to mix filtered low IF signals with a transmit local oscillation to produce the up converted signals, wherein the mixing module includes a mixing module ground connection;

filtering module operably coupled to filter the outbound low IF signals to produce the filtered low IF signals, wherein the filtering module includes a filtering module ground connection; and

analog portion of a digital to analog converter, wherein the digital to analog converter converts digital outbound low IF signals into the outbound low IF signals, wherein the analog portion of the digital to analog converter includes an analog portion ground connection, wherein the second inductor assembly includes a first inductor operably coupling the mixing module ground connection to the filtering module ground connection, a second inductor operably coupling the filtering module ground connection to the analog portion ground connection, and a third inductor operably coupling the analog portion ground connection to the digital ground connection.

15. (original) The RFIC of claim 9, wherein the analog receive section further comprises:

low noise amplifier operably coupled to amplify the inbound RF signals to produce amplifier inbound RF signals, wherein the low noise amplifier has a low noise amplifier ground connection; and

analog receive radio section operably coupled to convert the amplified inbound RF signals into the inbound low IF signals, wherein the analog receive radio section has an analog portion ground connection, wherein the first inductor assembly includes a first inductor operably coupling the low noise amplifier ground connection to the analog

portion ground connection and a second inductor operably coupling the analog portion ground connection to the digital ground connection.

16. (currently amended) A radio frequency integrated circuit (RFIC) having sectional electrostatic discharge (ESD) protection, the RFIC comprises:

power amplifier operably coupled to amplify up converted signals to produce outbound RF signals, wherein the power amplifier includes a power amplifier ground connection and power amplifier ESD protection circuitry;

analog radio section operably coupled to convert inbound radio frequency (RF) signals into inbound low intermediate frequency (IF) signals and operably coupled to produce the up converted signals from outbound low IF signals, wherein the analog radio section has an analog radio ground connection, and wherein the analog radio section includes analog ESD protection circuitry operably coupled to the analog radio ground connection;

digital section operably coupled to convert the inbound low IF signals into inbound digital data ~~baseband signals~~ and to convert outbound digital data ~~baseband signals~~ into the outbound low IF signals, wherein the digital section has a digital ground connection;

inductor operably coupling the power amplifier ground connection to the analog radio ground connection; and

inductor assembly operably coupling the analog radio ground connection to the digital ground connection for ESD protection between analog and digital domains across the analog radio ground and digital ground connections.

17. (original) The RFIC of claim 16 further comprises:

the analog radio section, the power amplifier, and the digital section being fabricated on a single die; and

the inductor and the inductor assembly are off-chip with respect to the single die.

18. (original) The RFIC of claim 17 further comprises at least one of:

the inductor and the inductor assembly are external to a package housing the single die; and

the inductor and the inductor assembly are within the package housing the single die.

19. (previously amended) The RFIC of claim 16 further comprises:

the analog radio section including second analog radio ESD protection circuitry operably coupled to an analog radio power source connection;

the power amplifier including second power amplifier ESD protection circuitry operably coupled to a power amplifier power source connection;

the digital section including a digital power source connection;

a second inductor assembly operably coupling the analog radio power source connection to the digital power source connection for ESD protection between analog and digital domains across the analog radio power source and digital power source connections; and

a third inductor assembly operably coupling the power amplifier power source connection to the digital power source connection for ESD protection between analog and digital domains across the power amplifier power source and digital power source connections.

20. (previously amended) The RFIC of claim 16, wherein the analog radio section further comprises:

low noise amplifier operably coupled to amplify the inbound RF signals to produce amplifier inbound RF signals, wherein the low noise amplifier has a low noise amplifier ground connection;

receive mixing module operably coupled to mix the amplified inbound RF signals with a receive local oscillation to produce down converted signals, wherein the mixing module has a mixing module ground connection;

receive filtering module operably coupled to filter the down converted signals to produce the inbound low IF signals, wherein the receive filtering module has a receive filtering ground connection;

ADC analog portion of an analog to digital converter, wherein the analog portion has an analog portion ground connection,

transmit mixing module operably coupled to mix filtered low IF signals with a transmit local oscillation to produce the up converted signals, wherein the mixing module includes a mixing module ground connection;

transmit filtering module operably coupled to filter the outbound low IF signals to produce the filtered low IF signals, wherein the filtering module includes a filtering module ground connection; and

DAC analog portion of a digital to analog converter, wherein the digital to analog converter converts digital outbound low IF signals into the outbound low IF signals, wherein the analog portion of the digital to analog converter includes an aualog portion ground connection, wherein the inductor assembly includes a first inductor operably coupling the low noise amplifier ground connection to the receive mixing module ground connection, a second inductor operably coupling the receive mixing module ground connection to the receive filtering ground connection, a third inductor operably coupling the receive filtering ground connection to the ADC analog portion ground connection, a fourth inductor operably coupling the ADC analog portion ground connection to the digital ground connection, a fifth inductor operably coupling the transmit mixing module ground connection to the transmit filtering module ground connection, a sixth inductor operably coupling the transmit filtering module ground connection to the DAC analog portion ground connection, and a seventh inductor operably coupling the DAC analog portion ground connection to the digital ground connection.